



**PATENT APPLICATION**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re the Application of

Takanori SHIMIZU et al.

Group Art Unit: 1625

Application No.: 10/524,686

Examiner: T. SOLOLA

Filed: April 19, 2005

Docket No.: 122760

For: PROCESS FOR PRODUCING AMINOBENZOPYRAN COMPOUND

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

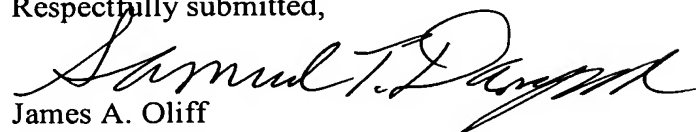
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

This request is being filed with a Notice of Appeal. Review of the August 13, 2008 Final Rejection is requested for the reasons set forth in the attached five or fewer sheets.

Should any questions arise regarding this submission, or the Review Panel believe that anything further would be desirable in order to place this application in even better condition for allowance, the Review Panel is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Registration No. 60,466

JAO:STD/emd

01/14/2009 SHOHANNE 03000066-10524686

Attachments:

01-FC-1401

540.00-00

Petition for Extension of Time  
Notice of Appeal

Date: January 13, 2009

**REMARKS**

Applicants respectfully request review of the Final Rejection mailed August 13, 2008, for at least the following reasons.

**I. Status of Pending Claims**

Claims 1, 2, 4, 5, 7, and 9 are pending in this application. The Office Action rejects claims 1-9 under 35 U.S.C. §103(a). Claims 3, 6 and 8 were cancelled by the Amendment After Final Rejection filed October 3, 2008. Entry of the amendments made in the Amendment After Final Rejection filed October 3, 2008 was confirmed by the Advisory Action mailed October 24, 2008.

Claims 1, 2, 4, 5, 7, and 9 remain rejected under 35 U.S.C. §103(a).

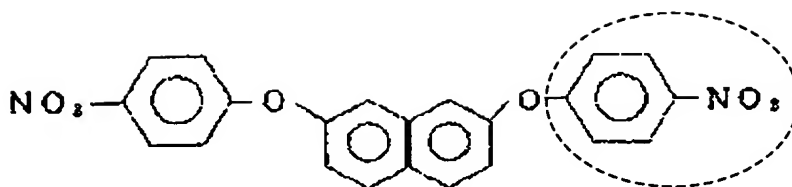
**II. Grounds of Rejection Presented for Review**

The Office Action rejects claims 1-9 under 35 U.S.C. §103(a) as having been obvious over Hiroko et al. ("Hiroko", JP 05-078289).

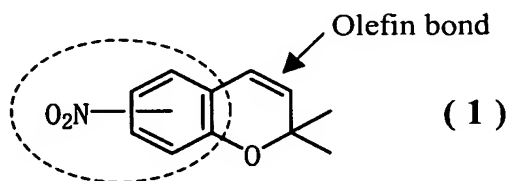
Applicants' traversal of the rejections and supporting arguments were made of record in the Amendment After Final Rejection filed October 3, 2008, and in the Request for Reconsideration After Final Rejection filed December 15, 2008. Applicants' respectfully request review of the rejections in light of the remarks made in the October 3 Amendment and the December 15 Request for Reconsideration, with particular emphasis on the following points:

Applicants respectfully submit that the teachings of Hiroko would not have rendered obvious the presently claimed method because (1) the compounds of Hiroko are not analogous starting materials, and (2) the presently claimed invention provides highly unexpected results.

The compounds of Hiroko are as shown below:



In contrast, the presently claimed invention includes compounds having the following formula:



The Office Action alleges that the compounds taught by Hiroko, in particular the circled portion of the compound shown above, is analogous to the presently claimed compound (1) shown above. The Office Action alleges that "there is no evidence in the specification or the prior arts that any part of the starting reagents other than NO<sub>2</sub> is involved in the reaction process," and therefore assumes that the compounds are analogous. Applicants respectfully traverse this assumption.

Applicants respectfully submit that the *lack* of reaction at any site other than the NO<sub>2</sub> group *is itself* the discovery of the present inventors. Under MPEP 716.02(a),

Absence of property which a claimed invention would have been expected to possess based on the teachings of the prior art is evidence of unobviousness. *Ex parte Mead Johnson & Co.* 227 USPQ 78 (Bd. Pat. App. & Inter. 1985) (Based on prior art disclosures, claimed compounds would have been expected to possess beta-andrenergic blocking activity; the fact that claimed compounds did not possess such activity was an unexpected result sufficient to establish unobviousness within the meaning of 35 U.S.C. 103.).

As is discussed in the present specification at, for example, paragraphs [0002], [0003] and [0046], benzopyran compounds such as those of formula (1) are widely known in the art as easily undergoing reduction at the olefin bond (noted above). In particular, reduction of this olefin bond results in the production of undesirable by-product having formula (5), as shown in the present specification at page 8.

A person having ordinary skill in the art therefore *would have expected* that the olefin bond in formula (1) would undergo reduction during a reaction method, such as that taught by Hiroko, that reduces the NO<sub>2</sub> group. In contrast, a person having ordinary skill in the art would *not* have expected, prior to the claimed invention, the aromatic bonds in the compounds taught by Hiroko to undergo reduction in such a method, because aromatic bonds are known to be much more stable than olefin bonds. Therefore, a person having ordinary skill in the art would have had *no reasonable expectation of similar properties* as between the presently claimed compounds of formula (1) and the compounds taught by Hiroko, because Hiroko's compounds only include aromatic bonds and do not include any olefin bonds. The presently claimed compounds are therefore not analogous to the compounds taught by Hiroko.

In particular, the Office Action makes *no* showing that a person having ordinary skill in the art *would have known at the time of the invention* that no other part of the compound having formula (1) (other than NO<sub>2</sub>) is involved in the reaction process. Absent such a showing, the Office Action impermissibly uses the present inventors' own disclosure as evidence of the obviousness of the presently claimed invention.

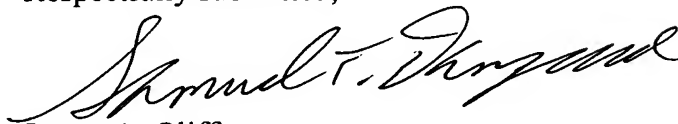
Thus, the presently claimed invention displays highly unexpected results of avoiding reduction of the olefin bond, such that by-product (5) is not formed. See the present specification at, for example, page 8, Table 1, and paragraph [0046]. Specifically, paragraph

[0046] shows that reduction with  $\text{FeCl}_3$  results in much higher amounts of compound (5) as compared to the presently claimed invention. These results are unexpected over Hiroko *because Hiroko teaches or at least strongly implies that all of the catalysts taught therein are interchangeable*. Hiroko nowhere teaches or suggests that any particular catalyst would achieve any different results, because the reactant compounds of Hiroko are very different (as discussed above) such that they would not undergo the reduction reaction to form a by-product such as formula (5) (i.e. because, again, the compounds taught by Hiroko do not contain olefin bonds). The unexpected results shown by the presently claimed invention are therefore not taught by Hiroko, nor are they even applicable to the teachings of Hiroko.

### III. Conclusion

For at least the reasons discussed above and made of record, it is respectfully submitted that the Final Rejection is predicated upon legal and factual deficiencies, and that all the pending claims are in condition for allowance. Withdrawal of the Final Rejection and allowance of this application are respectfully requested.

Respectfully submitted,



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Date: January 13, 2009

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